

AFCTN Test Report 93-027

AFCTB-ID 93-046









Technical IGES Evaluation

Using

SA-ALC/TIMCE Data

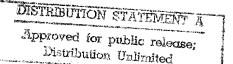
MIL-D-28000A (IGES)

Quick Short Test Report

12 May 1993



Electronic Systems Center



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Using:
SA-ALC/TIMCE Data

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Prepared By

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Contents

1.	Intro	$ ext{duction}.\dots\dots\dots\dots\dots$
	1.1.	Background1
	1.2.	Purpose2
2.	Test	Parameters3
3.		Analysis5
	3.1.	External Packaging5
	3.2.	Transmission Envelope5
		3.2.1. Tape Formats5
	•	3.2.2. Declaration and Header Fields
4.	IGES A	Analysis5
5.	SGML Z	Analysis9
6.		Analysis9
7.	CGM A	nalysis9
8.	Conclu	usions and Recommendations10
9.	Append	dix A - IGES Detailed Analysis11
	9.1.	IGES File11
		9.1.1. Parser/Verifier Log12
		9.1.2. Parser Log - AutoCAD R1217
		9.1.3. Cadkey v5.02 Log File31
		9.1.4. Checkmark v1.00 Log32
		9.1.5. Output IGESView - Initial Image35
		9.1.6. Output IGESVIew - Rotated View36

9.1.7.	Preview Log		3 7
9.1.8.	Output Wiz Worx	IGESDRAW	4]
9 1 9	Provided Output	File	, -

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. ticipants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze SA-ALC/TIMCE's interpretation and use of the CALS standards, in transferring IGES data. SA-ALC used its CAD System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 3.5" disk. The stated goal was the evaluation of the IGES file and not the MIL-STD-1840A format.

2. Test Parameters

Test Plan:

AFCTB 93-046

Date of

Evaluation:

12 May 1993

Evaluator:

George Elwood

Air Force CALS Test Bed

HQ ENC/ENCP

4027 Col Glenn Hwy

Suite 200

Dayton OH 45431-1672

Data

Originator:

Jerry Myer

SA-ALC/TIMCE

303 Industrial Park Road Kelly AFB TX 78241-5932

(210) 925-4661

Data

Description:

Technical IGES Test

1 Initial Graphics Exchange Standards

(IGES) file

Data

Source System:

IGES

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-D-28000 (IGES)

Sun SparcStation 2

ArborText iges2draw

IGES Data Analysis (IDA) Parser/Verifier V92

IDA IGESView V3.05

International TechneGroup Incorporated

(ITI) IGES/Works 1.3

Rosetta Technologies Preview V3.2

PC 486/50

Autodesk AutoCAD 386 R12
Autodesk (MES) Checkmark V1.0
Cadkey Cadkey V5.02
IDA IGESView Windows
Wiz Worx IGESDRAW

Standards Tested:

MIL-D-28000A

3. 1840A Analysis

3.1 External Packaging

The 3.5" disk arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial mailer. The exterior of the mailer was not marked with the magnetic media warning label as required by MIL-STD-1840A, para. 5.3.1.3.

The 3.5" disk was not enclosed in an anti-static barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. Enclosed in the mailer was a packing list showing all files that were recorded on the 3.5" disk.

3.2 Transmission Envelope

The 3.5" disk received by the AFCTB did not contain MIL-STD-1840A files. The files were not named per the standard conventions, as the stated propose of the test was the evaluation of the IGES file.

3.2.1 Tape Formats

File arrived on a 3.5" disk.

3.2.2 Declaration and Header Fields

No Document Declaration file or data file headers were included on this disk.

4. IGES Analysis

The 3.5" disk submitted by SA-ALC contained one IGES file. The instructions were to evaluated the file against CALS MIL-D-28000A Class II specification. Because the IGES file was small, it is included in the Appendix to this report.

A visual inspection of the file showed the lack of the CALS statement in the "Start" section per MIL-D-28000A, para. 3.2.2.4.1.

The file was evaluated using IDA's Parser and Verifier set for CALS MIL-D-28000A Class II specification. This program reported 135 errors, 5 warnings and 2 cautions while processing the file.

When a detailed evaluation of the global section was made, it was found that one index record was missing. Index record 8, the maximum power value appears to be missing. This moved all of the remaining values up one location which caused the reading systems to report errors. All of the remaining values appear to be correct.

The first error was in the global section of the file. The file called for IGES 2.0. This error was caused by the missing index value. When manually checking the value it was found to be 7, which is not permitted by MIL-D-28000A. The values should be 4-6 with the exception of Class V which must be 9.

An additional error in the global section is an incorrect value for index 5. This record shows that 37 characters should follow. The 37th character is the record delimiter comma. This caused the post-processors to lose their positions in the section.

```
,,10HEX2IGS.EXE,5H*.IGS,37HKELLY AFB TX/TIMCE/EX2IGS.EXE/VER1.0, G
16HNCSI APTGEN 2.20,32,6,308,15,7HRECVSYS,1.0,1,4HINCH,32767, G
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0; G
3
```

INDEX	VALUE	EVALUATION
1		Correct (default)
2		Correct (default)
3	EXE2IGS.EXE	
4	*.IGS	
5	KELLY AFB	
6	NCSI APTGEN .	• •
7	32	
8	6	
9	308	
10	15	
11	RECVSYS	<pre><missing here="" one="" record=""></missing></pre>
12	1.0	
13	1	

14	INCH			
15	32767			
16	3.2767D1			•
17	930412.13			
18	0.0001			
19	1000.0			
20	JMYER			
21	TIMCE			
	7			
23	0			
24				
Correc	ct Global section			
,,10HEX	21GS.EXE,5H*.IGS,36HKELLY AFB TX/TIMCE/EX2IGS	E.EXE/VER1.0.	· G	1
	APTGEN 2.20,32,36,6,308,15,7HRECVSYS,1.0,1,4		G	2
	01,13H930412.130000,0.0001,1000.0,5HJMYER,5HTI		G	3
sectio	al other CALS errors were reported on which were found to be correct i value had been present and the ind	f the addit	ional	
the DE	ext reported errors are basic IGES er E entries. The first error relates to ection not pointing to an associatival al note in the PD section. The entity	a pointer i vity instand	n the	
ERROR ERROR	the garden to the desired the grade tree to the contract the contract tree to the contract tree tree to the contract tree tree tree tree tree tree tree tr		1. ciativity	
*** En	ntity type: 124			

WARNING 2313: Improper definition space (defining vector magnitude not unit by

1.230040E+02) at D 1.

ERROR 2095: Improper definition space at D 1, determinant not +1. by 1.250000E+02.

124 124	1	1	3	0	0 MX1	01000300D 0D	1 2
124,1.0,0.0,0.0	.0.0.					10	1

The next CALS error is a lack of a drawing entity 404.

MIL-D-28000A Table II requires at least one drawing must be defined.

ERROR 4030: CALS Class II requires that at least one drawing must be defined.

*** Entity type: 100

ERROR 2242: Radii not equal at D 19; difference is 1.230000E+02. ERROR 2242: Radii not equal at D 21; difference is 1.230040E+02.

100,0.0,-0.938673,-0.589999,	19P	26
100,-0.813673,-0.589999,-0.813673,-0.589999;	19P	27
100,0.0,2.954673,-0.589999,	21P	28
100,3.79673,-0.589999,3.79673,-0.589999;	21P	29

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

None of the IGES capable systems in the AFCTB could display the file like the provided copy.

An attempt was made to convert the file using Arbortext's iges2draw utility. Because of the basic errors in the file, errors were reported to the screen and no file was output.

An attempt was made to convert the file using Rosetta Technologies' *Prepare*. This program generate an error file and no output file. The error log is included in the appendix to this report.

The file was read into IDA's IGESView and IGESView for Windows without a reported error. When displayed initially the image looked like a line in the X-Y plane. The parts of the image were not exactly line up indicating that each entity was at a slightly different Z depth. By rotating the image it was possible to view the various entities making up the image. The displayed image did not look like the provide

image. Checking the IGES file the text displayed, on the provided copy, is actually the transformation matrix name and should not have been displayed.

An attempt was made to read the file into ITI's *IGESWorks*. Many error messages were generated during this procedure and nothing was displayed.

The file was converted using Autodesk's AutoCAD R12 with 5.1 IGES translator. An extensive error log was generated. See the appendix for the log. Nothing displayed on the screen.

Autodesk's MES Checkmark was used to read the IGES file. Again, a large error log was generated and nothing displayed on the screen.

The file was converted using Cadkey's ig2c utility. An extensive error log was generated. Because of the errors, no usable output file was generated.

The file was read into the Wiz Worx IGESDRAW utility. This program generated an output like IGESViews first view.

The file from SA-ALC/TIMCE is not a valid IGES file. The file also had several CALS MIL-D-28000A Class II errors.

5. SGML Analysis

No Text files were included on the 3.5" disk.

6. Raster Analysis

No Raster files were included on the 3.5" disk.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on the 3.5" disk.

8. Conclusions and Recommendations

In summary, the 3.5" disk from SA-ALC/TIMCE did not have the required CALS Declaration file and data file headers. The defined purpose of the evaluation was not the CALS MIL-STD-1840A requirements.

The IGES file on the 3.5" disk had many critical errors in the basic format. These errors were both CALS and basic IGES errors. The global section had a missing index record and another one that was coded incorrectly. The IGES file did not meet CALS MIL-D-28000A specification.

The 3.5" disk and IGES file did not meet the CALS MIL-D-28000A Class II specification.

9. Appendix A - IGES Detailed Analysis

9.1 IGES File

IGES file f	rom unbo	unded AN	S X3.37	APT geome	etry definition stat	tements, S	1
					R, version 1.0, 199		2
					E/EX2IGS.EXE/VER1.0		1
16HNCSI APT	GEN 2.20	,32,6,30	8,15,7HR	ECVSYS,1.	0,1,4HINCH,32767,	G	2
3.2767D1,13	H930412.	130000,0	.0001,10	00.0,5HJM	YER, 5HTIMCE, 7, 0;	G	3
124	. 1	1 .			0	01000300D	1
124			3	Ö	MX1	OD	2
124	2	2			0	01000300D	3
124			3	0	MX2	0D	4
124	3	3			0	01000300D	5
124			3	0	MX3	0D	6
124	4	4			0	01000300D	7
124			3	0	MX4	0D	8
124	5	5			0	01000300D	9
124			3	0	MX5	0D	10
124	6	6			0	01000300D	11
124			3	0	MX6	. OD	12
124	7	7		•	0	01000300D	13
124		•	3	0	MX7	0D	14
110	8	8	1		1	0000000D	15
110	0	0	2	. 0	ГХ	0D	16
110	9	9	1		1	0000000D	17
110	0	0	2	0	LY	0D	18
100	10	10	1		1	0000000D	19
100	0	0	2	0	DOWEL1	OD	20
100	11	11	1		1	000000000	21
100	0	0	2	0	DOWEL2	. OD	22
110	12	12	1		1	0000000D	23
110	0	0	2	0	STKPX2	0D	24
110	13	13	1		1	0000000D	25
110	0	0	2	. 0	STKNX2	0D	26
116	14	14	1		1	0000000D	27
116	0	0	1	0	P1	0D	28
124,1.0,0.0						1P	1
124,0.0,1.0	•	•				1P	2
124,0.0,0.0		•				1P	3
124,1.0,0.0					:	3P	4
124,0.0,0.0		•				3 P	5
124,0.0,1.0		•				3P	6
124,-1.0,0.		•				5P	7
124,0.0,0.0	•	•				5P	8
124,0.0,1.0	, 0.0,0.0	;				5P	9

124,-1.0,0.0,0.0,0.0,	7P	10
124,0.0,1.0,0.0,0.0,	7P	11
124,0.0,0.0,-1.0,0.0;	7 P	12
124,0.0,0.0,1.0,0.0,	9P	13
124,1.0,0.0,0.0,0.0,	9P	14
124,0.0,1.0,0.0,0.0;	9P	15
124,0.0,0.0,-1.0,0.0,	11P	16
124,-1.0,0.0,0.0,0.0,	11P	17
124,0.0,1.0,0.0,0.0;	11P	18
124,0.707106,-0.408202,0.577382,0.0,	13P	19
124,0.707106,0.408202,-0.577382,0.0,	13P	20
124,0.0,0.816542,0.577285,0.0;	13P	21
110,-3.0,0.0,0.0,	15P	22
110,6.0,0.0,0.0;	15P	23
110,0.0,-3.866034,0.0,	17P	24
110,0.0,3.366034,0.0;	17P	- 25
100,0.0,-0.938673,-0.589999,	19P	26
100,-0.813673,-0.589999,-0.813673,-0.589999;	19P	27
100,0.0,2.954673,-0.589999,	21P	28
100,3.79673,-0.589999,3.79673,-0.589999;	21P	29
110,4.57173,-3.866034,0.0,	23P	30
110,4.57173,3.366034,0.0;	23P	31
110,-2.41173,-3.866034,0.0,	. 25P	32
110,-2.41173,3.366034,0.0;	25P	33
116,0.0,-0.365999,0.0;	27P	34
S 2G 3D 28P 34	T	1

9.1.1 Parser/Verifier Log

Model change Date. Time

```
*** IGES DATA FILE ANALYSIS ***

*** MARCH 1992 ***

*** IGES Data Analysis ***

*** (708) 449-3430 ***

Input file is /novell/9346/bracket.igs

Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)

Today is May 12, 1993 12:34 AM

*** File and Product Name Information ***

File name from sender = '*.IGS'

File creation Date.Time = ''
```

```
Author
   Department
   Product name from sender = 'EX2IGS.EXE'
   Destination product name = ''
*** Parameter Delimiters ***
   Delimiter = ','
   Terminator = ';'
 *** Originating System Data ***
   System ID
                         = 'KELLY AFB TX/TIMCE/EX2IGS.EXE/VER1.0,'
   Preprocessor version = ''
   Specification version = 3 (IGES 2.0)
ERROR 4048: Illegal specification version for CALS Class II specified.
 *** Precision levels ***
   Integer bits =
   Floating point - Exponent =
                                   308 Mantissa =
   Double precision - Exponent = 7 Mantissa =
 *** Global Model Data ***
    Model scale
                          = 4.0000E+00
ERROR 4026: CALS Class II requires model scale to be 1.0.
                          = 32767
    Unit flag
ERROR
        4051: Illegal unit flag for CALS Class II specified.
                          = 11
    Units
    Line weights
                          = 13
    Maximum line thickness = 1.000000E-04
    Minimum line thickness = 7.692308E-06
    Granularity = 5.000000E+00
    Maximum coordinate = 5.000000E+00
    Drafting standard applicable to original data is not specified.
        2158: Negative value for associativity/text pointer at D
ERROR
ERROR
        2060: Entity pointer (D
                                    1) does not point to an associativity
              instance or general note at D
                                                1.
ERROR
        2158: Negative value for associativity/text pointer at D
ERROR
       2060: Entity pointer (D
                                    1) does not point to an associativity
              instance or general note at D
                                               15.
        2158: Negative value for associativity/text pointer at D
ERROR
ERROR
       2060: Entity pointer (D
                                    1) does not point to an associativity
              instance or general note at D
                                               27.
ERROR
       2060: Entity pointer (D
                                    1) does not point to an associativity
              instance or general note at D
                                               27.
ERROR
        2060: Entity pointer (D
                                    1) does not point to an associativity
```

	instance or general note at I	27.
ERROR 2060	Entity pointer (D 1) doe	es not point to an associativity
	instance or general note at I	27.
ERROR 2060:	Entity pointer (D 1) doe	es not point to an associativity
	instance or general note at D	
ERROR 2060:	Entity pointer (D 1) doe	s not point to an associativity
	instance or general note at I	
ERROR 2060:	Entity pointer (D 1) doe	s not point to an associativity
TDDOD 0060	instance or general note at D	
ERROR 2060:	Entity pointer (D 1) doe	s not point to an associativity
ERROR 2060:	instance or general note at D	27.
ERROR 2000:	Messages suppressed	
*** Status I	lag Summary ***	
Deacab 1	rag bullinary	
Blank statu	s: Visible	7
	Blanked	7
	220000	,
Independenc	e: Independent	14
	Physically Subordinate	0
	Logically Subordinate	0
	Totally Subordinate	0
Entity use:	<u>-</u>	7
	Annotation	0
	Definition	0
	Other	7
	Logical/Positional	· 0
	2D parametric	0
	Not Specified	0
77.6 a a a a a a a a a	Observation and Table	
Hierarchy:	Structure DE applies	14
•	Subordinate DE applies	0
•	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	7 Fo	rm :	Level	(Count	Туре
				•		
100		0	0		2	Circular arc
110		0	0		4	Line
116		0	0		1	Point
124		0	0		7	Transformation matrix
ZDDOD	4020.	CATO	61	~~		

ERROR 4030: CALS Class II requires that at least one drawing be defined.

^{***} Entity Count by Level ***

Level Count 0 14

*** Labeling Information ***

100% of the entities are labeled.

Unlabeled 0

Label	Count	Label	Coun	t Label	Count
MX1 MX4 MX7 DOWEL1	1* M 1* L	X2 X5 X OWEL2	1* 1* 1*	MX3 MX6 LY STKPX2	1* 1* 1* 1*
STKNX2	1* P		1*	SIRPAZ	1"

NITPICK 2327: One or more of the flagged entity labels are not right-justified.

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	-	-	-	-	Undefined
2	-	-	-	-	4	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
•	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	7	-	-	-	Undefined
1	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined
130	132	134	136	138	140	142	144	
-	-	-	-	. =	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom

```
Center-line
                                           Dotted
                                           User defined
 *** Line Widths Used in Data ***
     Weight
                 Count
                            Width
  Defaulted
                 14
                           (0.0000)
 *** Colors Used in Data ***
  Defaulted
                  14
 ***** ENTITY ANALYSIS *****
 *** Entity type: 100
        2242: Radii not equal at D 19; difference is 1.230000E+02. 2242: Radii not equal at D 21; difference is 1.230040E+02.
ERROR
ERROR
 *** Entity type: 110
CAUTION 2336: Zero length line at D
CAUTION 2336: Zero length line at D
         4 lines averaging 6.250101E+01 units --
 *** Entity type: 116
 *** Entity type: 124
WARNING 2313: Improper definition space (defining vector magnitude not unit by
              1.230040E+02) at D
        2095: Improper definition space at D 1, determinant not +1. by
ERROR
              1.250000E+02.
WARNING 2313: Improper definition space (defining vector magnitude not unit by
              1.230000E+02) at D
WARNING 2313: Improper definition space (defining vector magnitude not unit by
              1.230000E+02) at D
                                       7.
WARNING 2313: Improper definition space (defining vector magnitude not unit by
              1.230040E+02) at D
WARNING 2313: Improper definition space (defining vector magnitude not unit by
              1.230000E+02) at D
                                     13.
7 transformation matrices, 3 non-zero translations.
        2341: 3 matrices contain translation information.
```

*** Message Summary ***

2013: 3 Data out of defined range. 2014: 126 Invalid entity referenced

2015: 5 Mathematically incorrect definitions.

4000: 1 Miscellaneous CALS messages 4011: 3 Problems in the Global section

*** Error Summary ***

- 0 fatal errors
- 0 severe errors
- 136 errors
 - 5 warnings
 - 2 cautions
 - 1 nitpicks
 - 1 notes

*** End of Analysis of /novell/9346/bracket.igs ***

9.1.2 Parser Log - AutoCAD R12

Title: IGESIN Journal (v5.1 Nov 05 1992)

File: I:\9346\BRACKET.xli Date: Wed, May 12, 1993

Time: 12:49:59

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N: 117-10075750

Translating from IGES file:

I:\9346\BRACKET.IGS

to AutoCAD Drawing:

UNNAMED . dwg

Options obtained from: default settings

Curves Approximated to Tolerance of

0.01

Surfaces Approximated to Tolerance of

0.01

Text Font/Style mapping:

IGES Text font

Style Name

ACAD Font

0

SYMBOLO

iges0

1

STANDARD

txt

2	LEROY	txt					
3	FUTURA	txt					
6	COMP80	txt					
12	GOTHICE	gothice					
13	GOTHICI	gothici					
14	ROMANS	romans					
17	ROMANT	romant					
18	ROMAND	romand					
19	OCR	txt					
1001	SYMBOL1	iges1001					
1002	SYMBOL2	iges1002					
1003	SYMBOL3	iges1003					
2001	KANJI	bigfont					
	7-2-10-2	2 grone					
IGES Linefont/Auto	CAD Linetype mapping	7					
IGES Line Font	AutoCAD linetype	_	file				
0	BYLAYER	•					
1	CONTINUOUS						
2	DASHED		acad.lin				
3	PHANTOM		acad.lin				
4	CENTER		acad.lin			* *	
5	DOT		acad.lin				
	•					•	
				======	======	====	
		=======================================		=====	======	====	. '
Parse phase					=====	====	. '
Parse phase		= = = = = = = = = = = = = = = = = = =		= = = = = = = =	======	===	
*** Warning (IAFP_					=====		
*** Warning (IAFP_ 16HNCSI APTGEN 2.20	_EXTRA_CHARS) *** 0,32,6,308,15,7HRECV	VSYS,1.0,1,4	HINCH,32767		G		2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^	0,32,6,308,15,7HREC			,	G	= = =	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4	0,32,6,308,15,7HRECV	cters follow		,	G		2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA	0,32,6,308,15,7HRECV 4: Extraneous charac AD_GLOBAL_FIELD) ***	cters follow	v field.		G	3 2 2 2	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA	0,32,6,308,15,7HRECV	cters follow	v field.		G G		2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20	0,32,6,308,15,7HRECV 4: Extraneous charac AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV	cters follow * VSYS,1.0,1,4	v field. HINCH,32767	,	G	322	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20	0,32,6,308,15,7HRECV 4: Extraneous charac AD_GLOBAL_FIELD) ***	cters follow * VSYS,1.0,1,4	v field. HINCH,32767	,	G	====	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted.	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing	cters follow * VSYS,1.0,1,4 global sect	v field. HINCH,32767	,	G	====	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) ***	cters follow * VSYS,1.0,1,4 global sect	v field. HINCH,32767 Lion field.	, Field	G	====	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing	cters follow * VSYS,1.0,1,4 global sect	v field. HINCH,32767 Lion field.	, Field	G	====	2
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_B) 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_B) 16HNCSI APTGEN 2.20	1: Extraneous characters 2: Extraneous characters 3: Extraneous characters 3: Extraneous characters 3: Extraneous characters 4: Error processing 3: Error processing 3: Error processing 3: Extraneous characters 4: Error processing 3: Error processing 3: Extraneous characters 4: Error processing 5: Error processing 6: Error processing	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4	v field. HINCH, 32767 Lion field. HINCH, 32767	, Field	G value w G		2 be
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) ***	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4	v field. HINCH, 32767 Lion field. HINCH, 32767	, Field	G value w G		2 be
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted.	1: Extraneous characters 2: Extraneous characters 3: Extraneous characters 3: Extraneous characters 4: Extraneous characters 5: 0,32,6,308,15,7HRECT 6: Error processing 4: Error processing 6: 2,32,6,308,15,7HRECT 6: Error processing	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4 global sect	v field. HINCH, 32767 Lion field. HINCH, 32767	, Field	G value w G		2 be
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) ***	cters follow WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field , Field	G value w G		2 be
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	1: Extraneous characters 2: Extraneous characters 3: Extraneous characters 3: Extraneous characters 4: Extraneous characters 5: 0,32,6,308,15,7HRECT 6: Error processing 4: Error processing 6: 2,32,6,308,15,7HRECT 6: Error processing	cters follow WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field , Field	G value w G		2 be
*** Warning (IAFP 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFPB/ 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFPB/ 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFPB/ 16HNCSI APTGEN 2.20	1: Extraneous characters of the control of the cont	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4 global sect VSYS,1.0,1,4	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field , Field	G value w G value w G	ill 1	2 0e 2 0e
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_ BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_ BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_ BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_ BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4	0,32,6,308,15,7HRECV 4: Extraneous charace AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) *** 0,32,6,308,15,7HRECV 4: Error processing AD_GLOBAL_FIELD) ***	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4 global sect VSYS,1.0,1,4	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field , Field	G value w G value w G	ill 1	2 0e 2 0e
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_B) 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_B) 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_B) 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_B) 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted.	4: Extraneous characteristics of the control of the	cters follow VSYS,1.0,1,4 global sect VSYS,1.0,1,4 global sect VSYS,1.0,1,4	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field , Field	G value w G value w G	ill 1	2 0e 2 0e
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	1: Extraneous characteristics of the control of the	cters follow WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field	G value w G value w G	ill 1	2 0e 2 0e
*** Warning (IAFP_ 16HNCSI APTGEN 2.20 }^ BRACKET.IGS, line 4 *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA 16HNCSI APTGEN 2.20 BRACKET.IGS, line 4 defaulted. *** Error (IAFP_BA	4: Extraneous characteristics of the control of the	cters follow WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect WSYS,1.0,1,4 global sect	w field. HINCH, 32767 Lion field. HINCH, 32767 Lion field. HINCH, 32767 Lion field.	, Field	G value w G value w G	ill 1	2 0e 2 0e

```
BRACKET.IGS, line 4: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP_BAD_GLOBAL_FIELD) ***
16HNCSI APTGEN 2.20,32,6,308,15,7HRECVSYS,1.0,1,4HINCH,32767,
BRACKET.IGS, line 4: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP__BAD_GLOBAL_FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP__BAD_GLOBAL FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP_BAD GLOBAL FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
                                                                               3
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP__BAD_GLOBAL FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
                                                                               3
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP_BAD GLOBAL FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
                                                                               3
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Error (IAFP__BAD_GLOBAL_FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
                                                                        G
                                                                               3
BRACKET.IGS, line 5: Error processing global section field. Field value will be
*** Error (IAFP BAD GLOBAL FIELD) ***
3.2767D1,13H930412.130000,0.0001,1000.0,5HJMYER,5HTIMCE,7,0;
BRACKET.IGS, line 5: Error processing global section field. Field value will be
defaulted.
*** Warning (IAFP_LARGER_SGL_EXP) ***
BRACKET.IGS, line 5: IGES file contains numbers with a larger single precision
exponent than what is allowed on this system.
*** Warning (IAFP__LARGER_SGL_SIG) ***
```

```
BRACKET.IGS, line 5: IGES file has greater number of significant digits in
single precision numbers than this system.
*** Warning (IAFP FLOAT EXPECTED) ***
124,0.0,1.0,0.0,0.0,
                                                                        1P
                                                                                 2
BRACKET.IGS, line 35: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP FLOAT EXPECTED) ***
124,0.0,0.0,1.0,0.0;
                                                                        1P
                                                                                 3
BRACKET.IGS, line 36: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP BAD COUNT FIELD) ***
124,0.0,0.0,1.0,0.0;
                                                                        1P
                                                                                 3
BRACKET.IGS, line 36: Invalid count field value.
*** Error (IAFP_BAD_COUNT_FIELD) ***
124,0.0,0.0,1.0,0.0;
                                                                        1P
                                                                                 3
BRACKET.IGS, line 36: Invalid count field value.
*** Warning (IAFP_PD_LINE_MISMATCH) ***
BRACKET.IGS, line 37: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT EXPECTED) ***
124,0.0,0.0,-1.0,0.0,
                                                                        3P
                                                                                 5
BRACKET.IGS, line 38: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,1.0,0.0,0.0;
                                                                        3₽
                                                                                 6
BRACKET.IGS, line 39: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                        3P
                                                                                 6
BRACKET.IGS, line 39: Invalid count field value.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                        3P
                                                                                 6
BRACKET.IGS, line 39: Invalid count field value.
*** Warning (IAFP_PD_LINE_MISMATCH) ***
BRACKET.IGS, line 40: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,0.0,1.0,0.0,
                                                                        5P
```

```
BRACKET.IGS, line 41: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,1.0,0.0,0.0;
                                                                        5P
                                                                                9
BRACKET.IGS, line 42: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP_BAD COUNT FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                        5P
                                                                                9
BRACKET.IGS, line 42: Invalid count field value.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                        5P
                                                                                9
BRACKET.IGS, line 42: Invalid count field value.
*** Warning (IAFP__PD_LINE_MISMATCH) ***
BRACKET.IGS, line 43: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,1.0,0.0,0.0,
                                                                        7P
                                                                               11
BRACKET.IGS, line 44: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP__FLOAT EXPECTED) ***
124,0.0,0.0,-1.0,0.0;
                                                                        7P
                                                                               12
BRACKET.IGS, line 45: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP_BAD_COUNT FIELD) ***
124,0.0,0.0,-1.0,0.0;
                                                                        7P
                                                                            12
BRACKET.IGS, line 45: Invalid count field value.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,0.0,-1.0,0.0;
                                                                        7P
                                                                               12
BRACKET.IGS, line 45: Invalid count field value.
*** Warning (IAFP PD LINE MISMATCH) ***
BRACKET.IGS, line 46: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,1.0,0.0,0.0,0.0,
                                                                        9P
                                                                               14
BRACKET.IGS, line 47: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP FLOAT EXPECTED) ***
124,0.0,1.0,0.0,0.0;
                                                                        9 P
                                                                               15
BRACKET.IGS, line 48: Integer found where floating point type was expected.
```

```
Integer value will be converted to floating point.
*** Error (IAFP BAD COUNT FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                         9P
                                                                                15
BRACKET.IGS, line 48: Invalid count field value.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                         9P
                                                                                15
BRACKET.IGS, line 48: Invalid count field value.
*** Warning (IAFP PD LINE MISMATCH) ***
BRACKET.IGS, line 49: PD line pointer does not point to proper PD card.
*** Warning (IAFP FLOAT EXPECTED) ***
124, -1.0, 0.0, 0.0, 0.0,
                                                                       11P
                                                                                17
BRACKET.IGS, line 50: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,1.0,0.0,0.0;
                                                                        11P
                                                                                18
BRACKET.IGS, line 51: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP BAD COUNT FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                       11P
                                                                                18
BRACKET.IGS, line 51: Invalid count field value.
*** Error (IAFP_BAD_COUNT FIELD) ***
124,0.0,1.0,0.0,0.0;
                                                                       11P
                                                                                18
BRACKET.IGS, line 51: Invalid count field value.
*** Warning (IAFP__PD_LINE_MISMATCH) ***
BRACKET.IGS, line 52: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.707106,0.408202,-0.577382,0.0,
                                                                       13P
                                                                               20
BRACKET.IGS, line 53: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Warning (IAFP__FLOAT_EXPECTED) ***
124,0.0,0.816542,0.577285,0.0;
                                                                       13P
                                                                               21
BRACKET.IGS, line 54: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP__BAD_COUNT_FIELD) ***
124,0.0,0.816542,0.577285,0.0;
                                                                       13P
                                                                               21
BRACKET.IGS, line 54: Invalid count field value.
*** Error (IAFP BAD COUNT FIELD) ***
```

```
124,0.0,0.816542,0.577285,0.0;
                                                                       13P
                                                                                21
BRACKET.IGS, line 54: Invalid count field value.
*** Warning (IAFP PD LINE MISMATCH) ***
BRACKET.IGS, line 55: PD line pointer does not point to proper PD card.
*** Warning (IAFP FLOAT EXPECTED) ***
110,6.0,0.0,0.0;
                                                                       15P
                                                                                23
BRACKET.IGS, line 56: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP__BAD_COUNT_FIELD) ***
110,6.0,0.0,0.0;
                                                                       15P
                                                                                23
BRACKET.IGS, line 56: Invalid count field value.
*** Warning (IAFP PD LINE MISMATCH) ***
BRACKET.IGS, line 57: PD line pointer does not point to proper PD card.
*** Warning (IAFP FLOAT EXPECTED) ***
110,0.0,3.366034,0.0;
                                                                        17P
                                                                                25
BRACKET.IGS, line 58: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP BAD COUNT FIELD) ***
110,0.0,3.366034,0.0;
                                                                       17P
                                                                                25
BRACKET.IGS, line 58: Invalid count field value.
*** Warning (IAFP__PD_LINE_MISMATCH) ***
BRACKET.IGS, line 59: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
100, -0.813673, -0.589999, -0.813673, -0.589999;
                                                                                27
                                                                       19P
BRACKET.IGS, line 60: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP BAD COUNT FIELD) ***
100, -0.813673, -0.589999, -0.813673, -0.589999;
                                                                        19P
                                                                                27
BRACKET.IGS, line 60: Invalid count field value.
*** Warning (IAFP PD LINE MISMATCH) ***
BRACKET.IGS, line 61: PD line pointer does not point to proper PD card.
*** Warning (IAFP__FLOAT_EXPECTED) ***
100,3.79673,-0.589999,3.79673,-0.589999;
                                                                        21P
                                                                                29
BRACKET.IGS, line 62: Integer found where floating point type was expected.
Integer value will be converted to floating point.
*** Error (IAFP__BAD_COUNT_FIELD) ***
```

100,3.79673,-0.589999,3.79673,-0.589999; 21P 29 BRACKET.IGS, line 62: Invalid count field value. *** Warning (IAFP__PD_LINE_MISMATCH) *** BRACKET.IGS, line 63: PD line pointer does not point to proper PD card. *** Warning (IAFP FLOAT EXPECTED) *** 110,4.57173,3.366034,0.0; 23P 31 BRACKET.IGS, line 64: Integer found where floating point type was expected. Integer value will be converted to floating point. *** Error (IAFP BAD COUNT FIELD) *** 110,4.57173,3.366034,0.0; 23P 31 BRACKET.IGS, line 64: Invalid count field value. *** Warning (IAFP__PD_LINE_MISMATCH) *** BRACKET.IGS, line 65: PD line pointer does not point to proper PD card. *** Warning (IAFP__FLOAT_EXPECTED) *** 110, -2.41173, 3.366034, 0.0; 25P 33 BRACKET.IGS, line 66: Integer found where floating point type was expected. Integer value will be converted to floating point. *** Error (IAFP__BAD_COUNT_FIELD) *** 110, -2.41173, 3.366034, 0.0; 25P 33 BRACKET.IGS, line 66: Invalid count field value. *** Warning (IAFP_ PD_LINE MISMATCH) *** BRACKET.IGS, line 67: PD line pointer does not point to proper PD card. *** Warning (IEVM_BAD_GLB_UNIT_FLAG) *** The IGES file's Global Unit flag, 32767, is out of range. The Global Unit flag must be between 1 and 11. *** Warning (IEVM_BAD_GLB_SCALE) *** The IGES file's Global Scale was invalid, 0.0000000e+000. The global scale must be positive and greater than zero. *** Warning (IEVM_LABEL_NOT_RJ) *** (DE 1, TF 124:0) DE has an invalid label justification. Action taken: Label has been right justified. *** Warning (IEVM_BAD_VECTOR_124) *** (DE 1, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

*** Warning (IEVM_BAD_DETERM_124) ***

(DE 1, TF 124:0) Entity has an invalid determinant value. Value found was -0.0080642539. For form 0, the determinate must be 1.0

*** Warning (IEVM_BAD_SIGN_124) ***

(DE 1, TF 124:0) Entity has an invalid determinant sign. Value of determinant sign must correspond to the form number.

Action taken: Entity's form set to 1

*** Warning (IEVM_BAD_CROSS_PROD_124) ***
(DE 1, TF 124:1) Entity's is not orthagonal.

Action taken: Entity made orthagonal by assuming X and Y are correct.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 3, TF 124:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 3, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

*** Warning (IEVM_BAD_DETERM_124) ***
(DE 3, TF 124:0) Entity has an invalid determinant value. Value found was 0.0000000000. For form 0, the determinate must be 1.0

*** Warning (IEVM_BAD_CROSS_PROD_124) ***
(DE 3, TF 124:0) Entity's is not orthagonal.

Action taken: Entity made orthagonal by assuming X and Y are correct.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 5, TF 124:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 5, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

*** Warning (IEVM_BAD_DETERM_124) ***
(DE 5, TF 124:0) Entity has an invalid determinant value. Value found was 0.0000000000. For form 0, the determinate must be 1.0

```
*** Warning (IEVM LABEL NOT RJ) ***
(DE 7, TF 124:0) DE has an invalid label justification.
Action taken: Label has been right justified.
*** Warning (IEVM BAD_VECTOR_124) ***
(DE 7, TF 124:0) Entity has a column which is not a unit vector.
Action taken: Unitized all vectors.
*** Warning (IEVM_BAD_DETERM_124) ***
(DE 7, TF 124:0) Entity has an invalid determinant value. Value found was
0.0080642539. For form 0, the determinate must be 1.0
*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 9, TF 124:0) DE has an invalid label justification.
Action taken: Label has been right justified.
*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 9, TF 124:0) Entity has a column which is not a unit vector.
Action taken: Unitized all vectors.
*** Warning (IEVM BAD DETERM_124) ***
(DE 9, TF 124:0) Entity has an invalid determinant value. Value found was
0.9999674834. For form 0, the determinate must be 1.0
*** Warning (IEVM BAD CROSS PROD_124) ***
(DE 9, TF 124:0) Entity's is not orthagonal.
Action taken: Entity made orthagonal by assuming X and Y are correct.
*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 11, TF 124:0) DE has an invalid label justification.
Action taken: Label has been right justified.
*** Warning (IEVM BAD VECTOR 124) ***
(DE 11, TF 124:0) Entity has a column which is not a unit vector.
Action taken: Unitized all vectors.
*** Warning (IEVM BAD DETERM 124) ***
 (DE 11, TF 124:0) Entity has an invalid determinant value. Value found was
```

-0.9999674834. For form 0, the determinate must be 1.0

*** Warning (IEVM_BAD_SIGN_124) ***

(DE 11, TF 124:0) Entity has an invalid determinant sign. Value of determinant sign must correspond to the form number.

Action taken: Entity's form set to 1

*** Warning (IEVM_BAD_CROSS_PROD_XY_124) ***
(DE 11, TF 124:1) Entity's cross product of X and Y does not equal Z.

Action taken: Z vector recomputed from the cross product of the Y and X.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 13, TF 124:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_BAD_VECTOR_124) ***
(DE 13, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

*** Warning (IEVM_BAD_DETERM_124) ***
(DE 13, TF 124:0) Entity has an invalid determinant value. Value found was 0.5750424251. For form 0, the determinate must be 1.0

*** Warning (IEVM_BAD_CROSS_PROD_124) ***
(DE 13, TF 124:0) Entity's is not orthagonal.

Action taken: Entity made orthagonal by assuming X and Y are correct.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 15, TF 110:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 17, TF 110:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_LABEL_NOT_RJ) ***
(DE 19, TF 100:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_RADII_NOT_EQUAL_100) ***
(DE 19, TF 100:0) Entity's radii are not equal. Start point radius:
1.0093892e+002. Terminate point radius: 4.1425067e-001.

Action taken: Start point moved 5.0262335e+001 units from 1.0000000e+002, -8.1367300e-001 to 4.9737788e+001, -7.0229498e-001. Terminate point moved 5.0262335e+001 units from -5.8999900e-001, -8.1367300e-001 to 4.1715713e+001, -2.7952742e+001.

*** Warning (IEVM_LABEL_NOT_RJ) *** (DE 21, TF 100:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM_RADII_NOT_EQUAL 100) *** (DE 21, TF 100:0) Entity's radii are not equal. Start point radius: 9.7144423e+001. Terminate point radius: 5.6398662e+000.

Action taken: Start point moved 4.5752278e+001 units from 1.0000000e+002, 3.7967300e+000 to 5.4294393e+001, 1.7307046e+000. Terminate point moved 4.5752278e+001 units from -5.8999900e-001, 3.7967300e+000 to -2.9345436e+001, 3.9383185e+001.

*** Warning (IEVM LABEL NOT RJ) *** (DE 23, TF 110:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM LABEL NOT RJ) *** (DE 25, TF 110:0) DE has an invalid label justification.

Action taken: Label has been right justified.

*** Warning (IEVM LABEL NOT RJ) *** (DE 27, TF 116:0) DE has an invalid label justification.

Action taken: Label has been right justified.

Start Section:

IGES file from unbounded ANS X3.37 APT geometry definition statements, and bounded via PC-APT/APTGEN; J.O'BRIEN MYER, version 1.0, 1993.

Global Section:

Parameter Delimiter:

Record Delimiter:

EX2IGS.EXE

Sending Product ID:

*.IGS

File Name: System ID:

KELLY AFB TX/TIMCE/EX2IGS.EXE/VER1.0,

Preprocessor Version:

Size of Integer:	6
Sgl. Precision Mag:	308
Sgl. Precision Sig:	15
Dbl. Precision Mag:	0
Dbl. Precision Sig:	0
Receiving Product ID:	
Model Space Scale:	0.00000
Unit Flag:	32767
Unit String:	
# of Line Weights:	51
Maximum Line Width:	0.000100
Creation Date:	Not Specified
Minimum Resolution:	0.00000
Maximum Coordinate:	0.00000
Author:	
Organization:	
IGES Version Number:	0
Drafting Standard:	0

Entity Summary:

Туре	Form	Description	Count
100	0	Circular Arc	2
110	0	Line	4
116	0	Point	1
124	0	Transformation Matrix	5
124	1	Negative Determ. Trans. Matrix	2
		Tota	al 14

Translation phase

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
=====	=====		=====	=======	=====
100	0	Circular Arc	2	2	0
110	0	Line	4	4	0
116	0	Point	1	1	0
124	0	Transformation Matrix	2	0	2
			=====	========	=====
Totals			9	. 7	2

AutoCAD Entity Summary

Entity	Created	Errors
========	======	
LINE	4	0
POINT	1	0
ARC	2	0
Totals	_======	=====
	7	0

Error Summary:

The following message was issued 1 time(s)

IGES file contains numbers with a larger single precision exponent than what is allowed on this system.

The following message was issued 1 time(s)

IGES file has greater number of significant digits in single precision numbers than this system.

The following message was issued 13 time(s)
PD line pointer does not point to proper PD card.

The following message was issued 20 time(s)

Integer found where floating point type was expected. Integer value will be converted to floating point.

The following message was issued 1 time(s)

Extraneous characters follow field.

The following message was issued 20 time(s)

Invalid count field value.

The following message was issued 12 time(s)

Error processing global section field. Field value will be defaulted.

The following message was issued 14 time(s)

DE has an invalid label justification.

The following message was issued 1 time(s)

The IGES file's Global Scale was invalid, %.7e. The global scale must be positive and greater than zero.

The following message was issued 1 time(s)

The IGES file's Global Unit flag, %d, is out of range. The Global Unit flag must be between 1 and 11.

The following message was issued 2 time(s)

Entity's radii are not equal. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued 7 time(s)

Entity has an invalid determinant value. Value found was %-10.10f. For form

%d, the determinate must be %-1.1f

The following message was issued 2 time(s)
Entity has an invalid determinant sign. Value of determinant sign must correspond to the form number.

The following message was issued 7 time(s) Entity has a column which is not a unit vector.

The following message was issued 1 time(s)
Entity's cross product of X and Y does not equal Z.

The following message was issued 4 time(s) Entity's is not orthagonal.

Status: 0 Warning: 75 Error: 32 Fatal: 0

Elapsed Time:

Processor: 00:00:02 Clock: 00:00:03

0.1.2 C-31 - F.00 T TO

9.1.3 Cadkey v5.02 Log File

i:\9346\bracket.igs -> i:\9346\bracket.prt

IGES Version: --- Unknown ---

Name: 1

Created By: 7 from 0

Date of Creation: 00/.0/10

Start section:

IGES file from unbounded ANS X3.37 APT geometry definition statements, and bounded via PC-APT/APTGEN; J.O'BRIEN MYER, version 1.0, 1993.

Entity types do not match at PARAMETER index 8 Found entity type 124, expected type 110

Entity types do not match at PARAMETER index 9 Found entity type 124, expected type 110

Entity types do not match at PARAMETER index 10 Found entity type 124, expected type 100

Entity types do not match at PARAMETER index 11 Found entity type 124, expected type 100

Entity types do not match at PARAMETER index 12 Found entity type 124, expected type 110

Entity types do not match at PARAMETER index 13 Found entity type 124, expected type 110

Entity types do not match at PARAMETER index 14 Found entity type 124, expected type 116

TRANSLATION STATISTICS

Entities Translated:

7 (124) Transformation Matrix types

Entities Not Translated:

- 2 (100) Circular Arc types
- 4 (110) Line types
- 1 (116) Point type

Special Notes:

- 7 Non-orthogonal transformation matrices encountered
- 1 Left handed matrices encountered

9.1.4 CHECKmark v1.00 Log

--- HEADER INFORMATION ---

IGES FILE : A:\BRACKET.IGS

Product Id (sender): EX2IGS.EXE

IGES File Name: *.IGS

Generating System: KELLY AFB TX/TIMCE/EX2IGS.EXE/VER1.0,

Preprocessor Version: RECVSYS, 1.0, 1, 4HINCH, 32767,

Bits Integer Representation: 13H930412.130000

Single Precision Magnitude: 0.0001
Single Precision Significance: 1000.0
Double Precision Magnitude: 5HJMYER
Double Precision Significance: 5HTIMCE

--- RUN TIME MESSAGES ---

ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 110 ERROR: CALLED AT "Get Entity" FOR ID 15 ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 110 124 ERROR: CALLED AT "Get Entity" FOR ID 17 ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 100 ERROR: CALLED AT "Get Entity" FOR ID 19 ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 100 ERROR: CALLED AT "Get Entity" FOR ID ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 110 124 ERROR: CALLED AT "Get Entity" FOR ID 23 ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 110 124 ERROR: CALLED AT "Get Entity" FOR ID 25 ERROR: DIRECTORY/PARAMETER TYPE MISMATCH 116 124 ERROR: CALLED AT "Get Entity" FOR ID 27

---- ENTITY COUNTS ----

Totals for SUPPORTED "IGES" entities : ARCS

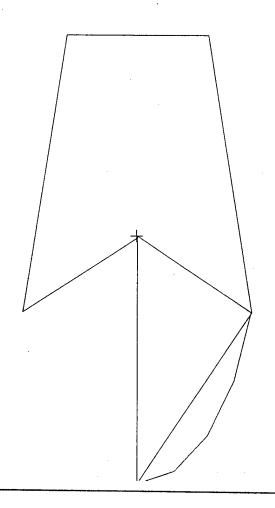
(100) = 2

LINES	(110)	=	4
POINTS	(116)	=	1
TRANSFORMATION MATRICES	(124)	=	7

NO WIREFRAME ENTITIES TRANSLATED !

9.1.5 Output IGESView - Initial Image

9.1.6 Output IGESVIew - Rotated View



9.1.7 Preview Log

ERROR REPORT FOR FILE /novell/9346/bracket.igs

>> File record length is 80

Terminate section report :

File Section	#lines
START	2
GLOBAL	3
DIRECTORY ENTRY	28
PARAMETER DATA	34
TERMINATE	1
TOTAL	68
(Expect 80 X 68 =	5440 bytes)

----- preliminary format scan complete ----->> WARNING: Extra non-blank characters before record delimiter. : Field 5 line 2 of GLOBAL section. (System ID) 16HNCSI APTGEN 2.20,32,6,308,15,7HRECVSYS,1.0,1,4HINCH,32767, >> WARNING: Integer overflow (replaced with 31). : Field 8 line 2 of GLOBAL section. (Max. Exp. for Single) 16HNCSI APTGEN 2.20,32,6,308,15,7HRECVSYS,1.0,1,4HINCH,32767, >> WARNING: Integer overflow (replaced with 31). : Field 14 line 2 of GLOBAL section. (Unit Flag) 16HNCSI APTGEN 2.20,32,6,308,15,7HRECVSYS,1.0,1,4HINCH,32767, >> WARNING: Invalid transform matrix. : Transform form 0 requires an orthogonal matrix. : Reading entity #1, DE entry #1 type TRANSFORM MATRIX. : Starting at line 1 of PARAMETER DATA section. >> WARNING: Bad DE Backpointer. (Set to 3) : Reading entity #2, DE entry #3 type TRANSFORM MATRIX. : Field 0, line 2 of PARAMETER DATA section. 124,0.0,1.0,0.0,0.0, 1P

>> WARNING: Bad DE Backpointer. (Set to 3) : Reading entity #2, DE entry #3 type TRANSFORM MATRIX. : Field 0, line 3 of PARAMETER DATA section.		
124,0.0,0.0,1.0,0.0;	1P	3
<pre>>> ERROR: Singular transform matrix. (entity DELETED)</pre>		
>> WARNING: Bad DE Backpointer. (Set to 5) : Reading entity #3, DE entry #5 type TRANSFORM MATRIX. : Field 0, line 3 of PARAMETER DATA section.		
124,0.0,0.0,1.0,0.0;	1P	3
>> ERROR: Singular transform matrix. (entity DELETED)		
 Reading entity #3, DE entry #5 type TRANSFORM MATRIX. Starting at line 3 of PARAMETER DATA section. 		
<pre>>> WARNING: Bad DE Backpointer. (Set to 7)</pre>		
124,1.0,0.0,0.0,0.0,	3P	4
>> WARNING: Bad DE Backpointer. (Set to 7) : Reading entity #4, DE entry #7 type TRANSFORM MATRIX. : Field 0, line 5 of PARAMETER DATA section.		
124,0.0,0.0,-1.0,0.0,	3P	5
>> WARNING: Bad DE Backpointer. (Set to 7)		
: Reading entity #4, DE entry #7 type TRANSFORM MATRIX.: Field 0, line 6 of PARAMETER DATA section.	•	
124,0.0,1.0,0.0,0.0;	3P	6
>> ERROR: Singular transform matrix. (entity DELETED)		
 Reading entity #4, DE entry #7 type TRANSFORM MATRIX. Starting at line 4 of PARAMETER DATA section. 		
>> WARNING: Bad DE Backpointer. (Set to 9) : Reading entity #5, DE entry #9 type TRANSFORM MATRIX.		
: Field 0, line 5 of PARAMETER DATA section. 124,0.0,0.0,-1.0,0.0,	3P	5

		_
>> WARNING: Bad DE Backpointer. (Set to 9) : Reading entity #5, DE entry #9 type TRANSFORM MATRIX. : Field 0, line 6 of PARAMETER DATA section.		
124,0.0,1.0,0.0,0.0;	3P	6
<pre>>> ERROR: Singular transform matrix. (entity DELETED)</pre>	·	
<pre>>> WARNING: Bad DE Backpointer. (Set to 11) : Reading entity #6, DE entry #11 type TRANSFORM MATRIX. : Field 0, line 6 of PARAMETER DATA section.</pre>		
124,0.0,1.0,0.0,0.0;	3P	6
<pre>>> ERROR: Singular transform matrix. (entity DELETED)</pre>		
>> WARNING: Bad DE Backpointer. (Set to 13) : Reading entity #7, DE entry #13 type TRANSFORM MATRIX. : Field 0, line 7 of PARAMETER DATA section.		
124,-1.0,0.0,0.0,0.0,	5P	7
>> WARNING: Bad DE Backpointer. (Set to 13) : Reading entity #7, DE entry #13 type TRANSFORM MATRIX. : Field 0, line 8 of PARAMETER DATA section. 124,0.0,0.0,1.0,0.0,	5P	8
>> WARNING: Bad DE Backpointer. (Set to 13) : Reading entity #7, DE entry #13 type TRANSFORM MATRIX. : Field 0, line 9 of PARAMETER DATA section.		
124,0.0,1.0,0.0,0.0;	5P	9
>> ERROR: Singular transform matrix. (entity DELETED) : Reading entity #7, DE entry #13 type TRANSFORM MATRIX. : Starting at line 7 of PARAMETER DATA section.		
>> WARNING: Bad DE Backpointer. (Set to 15) : Reading entity #8, DE entry #15 type LINE.		
: Field 0, line 8 of PARAMETER DATA section. 124,0.0,0.0,1.0,0.0,	5P	8

<pre>>> WARNING: Bad DE Backpointer. (Set to 17)</pre>	5 P	9
^^^^	-	
>> WARNING: Bad DE Backpointer. (Set to 19) : Reading entity #10, DE entry #19 type CIRCULAR ARC. : Field 0, line 10 of PARAMETER DATA section. 124,-1.0,0.0,0.0,0.0,	7 _P	10
>> WARNING: Bad DE Backpointer. (Set to 21) : Reading entity #11, DE entry #21 type CIRCULAR ARC. : Field 0, line 11 of PARAMETER DATA section. 124,0.0,1.0,0.0,0.0,	7 P	11
>> WARNING: Bad DE Backpointer. (Set to 23) : Reading entity #12, DE entry #23 type LINE. : Field 0, line 12 of PARAMETER DATA section. 124,0.0,0.0,-1.0,0.0;	7p	12
>> WARNING: Bad DE Backpointer. (Set to 25) : Reading entity #13, DE entry #25 type LINE. : Field 0, line 13 of PARAMETER DATA section. 124,0.0,0.0,1.0,0.0,	9P	13
>> WARNING: Bad DE Backpointer. (Set to 27) : Reading entity #14, DE entry #27 type POINT. : Field 0, line 14 of PARAMETER DATA section. 124,1.0,0.0,0.0,0.0,0.0	9 P	14
NEW_VIEW >> WARNING: No entities found. No drawing file produced.		
13 entities were deleted due to read errors		

Found 6 errors and 24 warnings

9.1.8 Output Wiz Worx IGESDRAW BRACKET

